

This Page Is Inserted by IFW Operations
and is not a part of the Official Record

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

IMAGES ARE BEST AVAILABLE COPY.

**As rescanning documents *will not* correct images,
please do not report the images to the
Image Problem Mailbox.**

BY

SEQUENCE LISTING

<110> Genotherapeutics Inc.
Steiner, Mitchell
Rinaldi, Augustine
Menon, Rema



RECEIVED

MAY 24 2001

TECH CENTER 1600/2900

<120> An isolated nucleic acid encoding P-HYDE protein and methods of inducing susceptibility to induction of cell death in cancer

<130> P-2762-US1

<140> US 09/449,817
<141> 1999-11-26

<150> US 09/302,457
<151> 1999-04-29

<160> 6

<170> PatentIn version 3.0

<210> 1
<211> 733
<212> DNA
<213> human

sub C'

<400> 1	60
tacgacttgg tcaacctggc agtcaagcag gtctttggccaa acaagagccca cctctgggtg	60
gaggaggagg tctggcggtat ggagatctac ctctccctgg gagtgcgtggc cctcgccacg	120
ttgtccctgc tggccgtgac ctcactgccc tccattccaa actcgctcaa ctggaggggag	180
ttcagcttcg ttcagtcctc actgggtttt gtggccctcg tgctgagcac actgcacacg	240
ctcacctacg gctggaccgg cgccattagaa gagaccgcta caagttctac ctgcctccca	300
ccttcacgct cacgctgctg gtgcctcg tgcgtcatctt ggccaaagcc ctgtttctcc	360
tgcctgcat cagccgcaga ctccccagga tccggagaad ctggggagagg gagagcacca	420
tcaagttcac gctgcccaca gaccacgccc tggccgagaa gacgagccac gtatgaggtg	480
cctgcctgg gctctggacc ccgggcacac gagggacgggt ccctgagcc cgtaggttt	540
tcttttcttg gtggtgcaaa gtggtataac tgtgtgcaaa taggaggttt gaggtccaaa	600
ttcctggac tcaaattgtat gcatgactat tcagaatgtat atacacacat atgtgtatat	660
gtatttacat atattccaca tatataaacag gatggcaat tatacatagc tagctaaaaa	720
aaaaaaaaaaa aaa	733

<210> 2
<211> 186
<212> PRT
<213> Human

<400> 2

Met Glu Ile Tyr Leu Ser Leu Gly Val Leu Ala Leu Gly Thr Leu Ser
1 5 10 15

Leu Leu Ala Val Thr Ser Leu Pro Ser Ile Ala Asn Ser Leu Asn Trp

RECEIVED
JUN -5 2001
TC 1700 MAIL ROOM

20

25

30

Arg Glu Phe Ser Phe Val Gln Ser Ser Leu Gly Phe Val Ala Leu Val
 35 40 45

Leu Ser Thr Leu His Thr Leu Thr Tyr Gly Trp Thr Arg Ala Phe Glu
 50 55 60

Glu Thr Ala Thr Ser Ser Thr Cys Leu Pro Pro Ser Arg Ser Arg Cys
 65 70 75 80

Trp Cys Pro Ala Ser Ser Trp Pro Lys Pro Cys Phe Ser Cys Pro
 85 90 95

Ala Ser Ala Ala Asp Ser Pro Gly Ser Gly Glu Ala Gly Arg Gly Arg
 100 105 110

Ala Pro Ser Ser Arg Cys Pro Gln Thr Thr Pro Trp Pro Arg Arg
 115 120 125

Arg Ala Thr Tyr Glu Val Pro Ala Leu Gly Ser Gly Pro Arg Ala His
 130 135 140

Glu Gly Arg Cys Pro Glu Pro Val Arg Phe Ser Phe Leu Gly Gly Ala
 145 150 155 160

Lys Trp Tyr Asn Cys Val Gln Ile Gly Gly Leu Arg Ser Lys Phe Leu
 165 170 175

Gly Leu Lys Cys Met His Asp Tyr Ser Glu
 180 185

<210> 3
<211> 1467
<212> DNA
<213> Rat

<400> 3
atgtccgggg agatggacaa acogctcatac agtcgcccgt tggtgacag tgatggcagt 60
ctggctgagg tccccaaagga ggctcccaa gtggcatcc tgggcagcgg ggattttgcc 120
cggtccctgg ccacacgact ggtggctct ggcttcttgc tggtggtggg aagcogtaac 180
ccaaacgcac ctgcggccct cttccctcc tttagccaa tgactttcca ggaggaggcc 240
gtgagctctc cagaggcat ctttgtggcc gtgtccggg agcactactc ctcaactgtgc 300
agtcttgcgt accagttggc tggcaagatc ctatggatg taagcaaccc cacggagaag 360
gagcgttttc agcaccgcac gtogaacgcc gagtacctgg cctccctttt ccctgcctgc 420
actgtggtca aggcccaa cgtcatctct gcatggcc tacaggctgg cccaaaggat 480
gggaacaggc aggtgctcat ctgcggtgac cagctggaa ccaagcacac cgtctcagag 540
atggcgccgc ccatgggtt caccctactg gacatggat ccctggcctc agcgagggag 600
gtagaggcca taccctgcg cctccatcca tcttggagg tgcccacccct cctggccctg 660
gggctaagca cacaaagcta tgcctacaa ttcatccggg acgttctaca gccgtacatc 720
cgaaaagatg agaacaagtt ctacaagatg cccctgtctg tggtaaacac cacgatacccc 780
tgtgtggctt acgtgctgct gtcctgggt tacctgcctg gtgtgctggc agctgcccctt 840

cagctgagga	gggg	ccaa	gtaccagcgc	tcccgact	ggctggacca	ttggctgcag	900
caccgcaagc	agatcgggct	actcagctt	ttttcgcca	tgctcacgc	tctctacagc		960
ttctgcctgc	cgctgcgccc	ctccccaccgc	tatgatctgg	tcaaacctggc	tgtgaaggcag		1020
gtccctggcca	acaagagccg	cctctgggtt	gaggaagaag	tctggcggt	ggagatatac		1080
ctgtccctgg	gtgtgctggc	tctgggatg	ctgtcactgc	tggcggtac	ctcgatccct		1140
tccattgcaa	actcactcaa	ctggaaggag	ttcagctttg	tgcagtccac	gctgggcttc		1200
gtggccctga	tgctgagcac	aatgcacaccc	ctcacotacg	gctggacccg	tgcttttag		1260
gaaaaccact	acaagttcta	cctgccaccc	acattcacgc	tcacgctgct	cctgccctgt		1320
gtcatcatcc	tggccaagggg	cctttccctc	ctgcctgccc	tcagccacag	actcaccsaag		1380
atccgcaggg	gctgggagag	ggatggtgcc	gtcaagttca	tgctgcccgc	tggccacaca		1440
cagggggaga	aaacaagcca	cgtgtga					1467

<210> 4
<211> 17
<212> PRT
<213> Rat

<400> 4

Asn	Phe	Ile	Arg	Asp	Val	Leu	Gln	Pro	Tyr	Ile	Arg	Lys	Asp	Glu	Asn
1				5				10				15			

Lys

<210> 5
<211> 3884
<212> DNA
<213> Rat

<400> 5

gcggccgcca	tcatcaataa	tataccttat	tttggattga	agccaaatatg	ataaatgaggg	60
ggtggagttt	gtgacgtggc	gcggggcggt	ggaacggggc	gggtgacgta	gtagtgtggc	120
ggaagtgtga	tgttgcaagt	gtggcggAAC	acatgtaaGC	gacggatgtG	gcaaaagtGA	180
cgttttttgt	gtgcggcggt	gtacacagga	agtgacaatt	ttcgcccggt	tttaggcggA	240
tgttgtagta	aatttggcg	taaccgagta	agatttggcc	attttgcgg	aaaaactgaa	300
taagaggaag	tgaaatctga	ataattttgt	gttactcata	gcgcgtata	tttgtctagg	360
gccgcgggga	ctttgaccgt	ttacgtggag	actcgccag	ggcgccccc	gatgtacgg	420
ccagatatac	gcgtatctga	ggggactagg	gtgtgtttag	gcgaaaagcg	gggcttcggt	480
tgtacgcgggt	taggagtccc	ctcaggatat	agtagttcg	cttttgcata	gggaggggga	540
aatgtagtct	tatgcaatac	tcttgtagtc	ttgcaacatg	gtaacgatga	gttagcaaca	600
tgccttacaa	ggagagaaaa	agcaccgtgc	atgccgattg	gtggaagtaa	ggtggtacga	660
tcgtgcctta	ttaggaaggc	aacagacggg	tctgacatgg	attggacgaa	ccactgaatt	720

ccgcattgca gagatattgt attaagtgc ctagctcgat acaaataaacg ccatttgacc	780
attcaccaca ttggtgtgca ctcggggccc tggccactct cttccgcac gctgtctgcg	840
ggggccagct gttgggtcg cggttgagga caaactcttc gcggtcttc cagtaacttt	900
ggatcgaaaa cccgtcgccc tccgaacggt actccgeccgc cgagggacct gagcgagtcc	960
gcatcgaccg gatcgaaaaa cctctggaga aaggcgtgta accagtacaca gtcgtcttag	1020
aactagtggta tccccgggc tgcaggaatt cgataattcg gcacgagget gcccaggcac	1080
tgtgtatgtcc ggggagatgg acaaaccgt catcagtgc cgcgtgggg acagtgtatgg	1140
cagtctggct gaggtccccca aggaggtccc caaagtgggc atcctggca gcggggattt	1200
tgcgggtcc ctggccacac gcctgggtgg ctctggcttc tttgtgggg tggaaagccg	1260
taacccaaa cgcactgcgg gcctcttccc ctcccttagcc caagtgactt tccaggagga	1320
ggccgtgagc tctccagagg tcatctttgt ggccgtgttc cgggagact actcctcaet	1380
gtcagttttt gctgaccagt tggctggcaa gatcgttagtg gatgtaaagca accccacgga	1440
gaaggagcgt cttcagcacc gccagtcgaa cgcggagttac ctggcctccc tttccctgc	1500
ctgcactgtg gtcaaggccat tcaacgtcat ctctgcattgg gccctacagg ctggcccaag	1560
ggatgggaac aggcaggtgc tcatactgggg tgaccagctg gaagccaage acaccgtete	1620
agagatggcg cgccgcatgg gtttccacccc actggacatg ggatccctgg ctcagecgag	1680
ggaggttagag gccataacccc tgcgcctctt tccatccctgg aagggtggcca ccctcctggc	1740
cctggggcta agcacacaaa gctatgccta caacttcata cgggacgttc tacagccgta	1800
catccggaaa gatgagaaca agtttacaaa gatggccctg tctgtggta acaccacgt	1860
accctgtgtg gtttacgtgc tgctgtccct ggtttacctg cctgggtgtgc tggcagctgc	1920
ctttcagctg aggagggggc ccaagttacca ggcgttccca gactggctgg accattggct	1980
gcagcaccgc aagcagatcg ggctactcag ctttttttc gccatgctgc acgtctcta	2040
cagttctgc ctggccgtgc ggcgttccca cgcgttatgtat ctggtaacc tggctgtgaa	2100
gcaggtcctg gccaacaaga ggcgttctg ggttggggaa gaagtctggc ggatggagat	2160
atacctgtcc ctgggtgtgc tggctatggg catgtgtca ctgtggccgg ttacctcgat	2220
cccttccatt gcaaactcac tcaactggaa ggagttcagc tttgtgcagt ccacgtggg	2280
cttcgtggcc ctgatgtga gcacaatgca caccctcacc tacggctgga cccgtgtttt	2340
tgagggaaaac cactacaagt tctacactgcc acccacattc acgtcacgc tgctcctgcc	2400
ctgtgtcatc atcctggcca agggcccttt ctcctgcacc tgcgttgcac acagactcac	2460
caagatccgc aggggctggg agagggatgg tgccgtcaag ttcatgtgc cgcgtggcca	2520
cacacagggg gagaaaaacaa gccacgtgtg aggccctgga aatggagaca ggcacagctt	2580
gtggggggccc tgggtgggt tgggtctct tttctggat ggtatatgcg tgggtggccg	2640
aggtctgaat ttctggatg caggtgtatg ccgagatact cagaatgcgg taccacacat	2700

gcgataagta ctcasatata tttcatatat aataggattt actattttc ttagttaaaa	2760
aaaaatagtg ggtccttata tttcaactta tgcagggtcc ctatatttca acttgagcat	2820
ttcagagcaa atgccacaca ttaaacagca gatcccaccc ttgtggtagc tgcagagaca	2880
gacagaaact tctggttatg agagagactg tattttgtt gattctacct ttaatccccg	2940
ttctctacgt tcccctgtta gccacatctt aacgttggtg cagagctgg acaagagctg	3000
gctctggtgc agcctccccc atcccaggc tagaaacaa gcctctgtatg aacagaggga	3060
ccaggtctgg accctctgc tcccgttcc ctgggtcg a tggggaggc tcagcgggat	3120
cccccgcaat ctgtcagga gttttcacag gtctgtcctt tcttccggga gcggtctgaa	3180
gcggccccat ctgatcttag ctgagccgag attttcccc actccctgaa agtccagagt	3240
caccgtggag cctgcaaatt gtccttctg cgaaggtgtg aagtcaccgt ctcaccagag	3300
ccattaacga acctgatctt cagaagaagc ataattgttt ccctccatt aagttggtgg	3360
tgaccctctt taaaccactg tgccttctcg ccttccat cactaatttg ggcattctcca	3420
tggagtggac tcttgcggg gca gttcagg ggggagggaa gcattagaga ttgcggagaa	3480
taaccatcga agcctccctt ggtatgttccc aggctgtcct tcattaaattt ggtccctaatt	3540
gagaatgaca ggggaccctt gttgcctgta tgcagagaac cagccttctg agcacccagg	3600
aaacacagtg gccccacgcc cttcagggg gtcacacgtc cccttccca tgctttgcc	3660
tccctccctc cgggttacaa tcaaccataa aagtctgcaatattgttt ttgaattatc	3720
aagcttatacg ataccgtcga aacttgttta ttgcagctta taatggttac aaataaaagca	3780
atagcatcac aaatttcaca aataaaagoat tttttcaact gattctagt tgggtttgt	3840
ccaaactcat caatgtatct tatcatgtct ggatccgacc tgg	3884

<210> 6
<211> 32166
<212> DNA
<213> Rat

<400> 6 atctggagg tgcgtgaggta cgatgagacc cgcaccagg gcagaccctg cgagtgtggc	60
ggtaaacata ttaggaacca gcctgtatg ctggatgtga ccgaggagat gagccccat	120
cacttggtgc tggcctgeac cccgcgtgag tttggctcta gcgtatgaa tacagatgt	180
ggtaactgaaa tgggtggcgg tggcttaagg gtggaaaga atatataagg tgggggtttt	240
atgttagttt gtatctgttt tgcagcagcc gcccggccca tgagcaccaa ctgcgtttat	300
ggaaggcattt tgagctcata tttgacaacg cgcattcccc catggccgg ggtgcgtcag	360
aatgtgatgg gtcacacgtat tgcgttgc cccgttgc ccgcacactc tactacattt	420
acctacgaga cccgttgcgg aacgcgttg gagactgcag ctcggccgc cgttccagcc	480
gctgcagcca cccggccgg gattgtgact gactttgtt tcctgagccc gcttgcac	540
agtgcagctt cccgttgcac cgcggccgtat gacaaggatg cgggttctttt ggccatattt	600

gattcttga cccgggaact taatgtcggt tctcagcgc tggtggatct gcgccagcag 660
gtttctgcac tgaaggcttc ctccccccc aatgcggttt aaaacataaa taaaaaacca 720
gactctgttt ggatttggat caagcaagtg tcttgcgtgc ttatatttagg ggttttgcgc 780
gogcggtagg cccgggacca gcgggtctcg tcgttgaggg tcctgtgtat ttttccagg 840
acgtggtaaa ggtgactcts gatgttcaga tacatggca taagcccgtc tctgggggtgg 900
aggttagcacc actgcagagc ttcatgcgtc ggggtgggtgt tgttagatgtat ccagtcgtag 960
caggagcgct gggcgtggtg cctaaaaatg tcttcagta gcaagctgtat tgccaggggc 1020
aggcccttgg tgtaagtgtt tacaaagcgg ttaagctggg atgggtgcatt acgtggggat 1080
atgagatgca tcttggactg tatttttagg ttggctatgt tcccagccat atccctccgg 1140
ggattcatgt tgtgcagaac caccagcaca gtgtatccgg tgcacttggg aaatttgtca 1200
tgtagcttag aaggaaatgc gtggaaagaac ttggagacgc ccttgtgacc tccaagattt 1260
tccatgcatt cgtccataat gatggcaatg ggcccacggg cggcggcctg ggcgaagata 1320
tttctggat cactaacgtc atagttgtgt tccaggatga gatcgtcata ggccatffff 1380
acaaagcgcg ggcggagggt gccagactgc ggtataatgg ttccatccgg cccaggggctg 1440
tagttaccct cacagatttg catttccac gctttaggtt cagatgggg gatcatgtct 1500
acctgcgggg cgatgaagaa aacggtttcc gggtagggg agatcagctg ggaagaaagc 1560
agtttcctga gcagctgcga cttaccgcag ccgggtggcc cgtaaatcac acctattacc 1620
gggtgcaact ggttagttaag agagctgeag ctgcgtcat ccctgagcag gggggccact 1680
tcgttaagca tgccttgcac tcgcgtgtt tccctgacca aatccgcac aaggcgctcg 1740
ccgcccagcg atagcagtcc ttgcaaggaa gcaaagtttt tcaacgggtt gagaccgtcc 1800
gccgtaggca tgcttttagg cgtttgcacca agcagttcca ggccgtccca cagctcggtc 1860
acctgtetata cggcatctcg atccagcata tctctcgat tgcgggttg gggggcttt 1920
cgctgtacgg cagtagtcgg tgctcgatcc gacggccag ggtcatgtat ttccacgggc 1980
gcagggtcct cgtcagcgta gtctgggtca cggtaaggg gtgcgtcccg ggctgcgcgc 2040
tgcccaagggt gcgcgttgcagg ctggctctgc tggtgctgaa ggcgtccgg tttcgccct 2100
gcgcgtcggc caggtacat ttgaccatgg tgcataatgc cagccctcc gggcgtggc 2160
ccttggcgcc cagcttgcgg ttggaggagg cccgcacga gggcaagtgc agactttga 2220
ggcgttagag cttggcgccg agaaataccg attccggggg ttaggcattcc gcgcgcagg 2280
cccccgcac ggtctcgcat tccacgcac aggtgagctc tggccgttcg gggtaaaaaa 2340
ccaggtttcc cccatgttt ttgatgcgtt tcttacctct ggttccatg agccgggtgc 2400
cacgctcggt gacgaaaagg ctgtccgtgt ccccgataac agacttgaga ggccgtcct 2460
cgagcggtgt tccgcgggtcc tcctcgatata gaaactcgga ccactctgag acaaaggctc 2520
gcgtccaggc cagcacgaag gaggctaagt gggagggta ggcgttagtt tccacttaggg 2580

gcatgaaggc cacgagctgc ttccaaaagg cccccatcca agtataggc tctacatcg 4620
aggtgacaaa gagacgctcg gtgcgaggat gcgagccat cggaaagaac tggatctccc 4680
gccaccaatt ggaggagtgg ctattgtatgt ggtgaaagta gaagtcctg cgacggggcg 4740
aacactcgtg ctggcttttg taaaaacgtg cgcaactcg gcagcggtgc acgggctgt 4800
catcctgcac gaggttgcacc tgacgaccgc gcacaaggaa gcagagtggg aattttagcc 4860
cctcgctgg cgggttggc tgggtgtctt ctacttcggc tgcgtgtcct tgaccgtatg 4920
gtcgctcgag gggagttacg gtggatcgga ccaccacgcc ggcgcagccc aaagtccaga 4980
tgtcccgccg cggcggtcgg agcttgcgtgaa acatcgcc cagatgggag ctgtccatgg 5040
tctggagctc cccggcggtc aggtcaggcg gagactcctg cagggttacc tcgcataagac 5100
gggtcagggc gcgggctaga tccaggtgat acctaatttc cagggctgg ttggtggccg 5160
cgtcgatggc ttgcaagagg ccgcattcccc gcggcgccgac tacggtaccg cggcggcggc 5220
ggtggccgc ggggtgtcc ttggatgtatg catataaaag cggtgacgccc ggcgagcccc 5280
cgaggttagg gggggctccg gacccggcgg gagagggggc aggggcacgt cggcggccg 5340
cgccggcagg agctggtgct gcgcgcgtag gttgcgtggc aacgcgacga cggcggcggt 5400
gatctcctga atctggcgcc tctgcgtgaa gacgacggc cccgtgagct tgagcctgaa 5460
agagagttcg acagaatcaa tttcggtgtc gttgacggcg gcctggcgca aaatotcctg 5520
cacgtctcct gagttgtctt gataggcgat ctggccatg aactgctcgat tctcttcctc 5580
ctggagatct ccgcgtccgg ctgcgtccac gttggcgccg aggtcggtgg aaatgcgggc 5640
catgagctgc gagaaggcgt tgaggcctcc ctgcgtccag acggcgctgt agaccacgcc 5700
ccctteggca tcgcgggcgc gcatgaccac ctgcgcgaga ttgagctcca cgtgcggggc 5760
gaagacggcg tagttcgca ggcgtgaaa gaggtgtttt aggggtggcgg cggtgtgttc 5820
tgccacgaag aagtacataa cccagcgatc caacgtggat tcgttgatata ccccaaggc 5880
ctcaaggcgc tccatggct cgtagaagtc cacggcgaag ttgaaaaact gggagttgcg 5940
cgccgacacg gttaactcct cctccagaag acggatgagc tggggacag tgcgcgcac 6000
ctcgcgatca aaggctacag gggcctcttc ttcttcttca atctctctt ccataaggc 6060
ctccccctct tcttcttctg cggcggtgg gggagggggg acacggcgcc gacgacggcg 6120
caccgggagg cggtcgacaa agcgctcgat catctcccg cggcgacggc gcatggtctc 6180
ggtgacggcg cggccgttct cgcggggcg cagttggaaag acgcccggc tcatgtcccg 6240
gttatgggtt ggcggggggc tgccatgcgg cagggatacg ggcgttaacga tgcatactcaa 6300
caattgttgtt gtaggtactc cgcgcggcag ggacgtgagc gagtccgcat cgaccggatc 6360
ggaaaaccc tcgagaaagg cgtataacca gtcacagtcg caaggttaggc tgagcaccgt 6420
ggcggggggc acggggcgcc ggtcggttt gttctggcg gaggtgctgc tgcgtatgt 6480
attaaagtag cgggtcttga gacggcggtat gtcgcacaga agcaccatgt ctgtgggtcc 6540

ggcctgctga atgcgcaggg ggtcgccat gcccaggct tcgttttgc acggcgcag 6600
 gtctttgttag tagtcttgca gagccttc taccggcaact tcttcttctc cttcccttttg 6660
 tcctgcacatctt ctgcacatcta tcgctgcggc ggccggcggag tttggccgta ggtggcgccc 6720
 tcttcctcccc atgcgtgtga ccccaagcc cctcatcgcc tgaagcaggg cttagtgcggc 6780
 gacaacgcgc tcggctaata tggctctgtg cacctgcgtg agggtagact ggaagtcatc 6840
 catgtccaca aagcggtggt atgcggccgt gttgatggtg taagtgcagt tggccataac 6900
 ggaccaggta acggctctggt gacccggctg cgagagctcg gtgtacctga gacgcgagta 6960
 agccctcgag tcaaataacgt agtcgttca agtccgcacc aggtactggt atcccaccaa 7020
 aaagtgcggc ggccggctggc ggttagagggg ccagcgtagg gtggccgggg ctccgggggc 7080
 gagatcttcc aacataaggg gatgatatcc ttagatgtac ctggacatcc aggtgatgcc 7140
 ggcggcggtg gtggaggcgc gcggaaagtc gacgcgtcgg ttccagatgt tgccgcagcgg 7200
 caaaaagtgc tccatggctg ggacgctctg gcccgtcagg cgccgcgaat cggtgacgct 7260
 ctaccgtgca aaaggagagc ctgttaagcgg gacactttcc gtggtctggg ggataaattc 7320
 gcaagggtat catggcggac gacgggggtt cgagccccgt atccggccgt cggccgtgat 7380
 ccatgcgggtt accgcggcgc tgctgaaccc aggtgtgcga cgtcagacaa cgggggagtg 7440
 ctccctttgg ctcccttcca ggccggcgg ctgcgtcgct agctttttg gccactggcc 7500
 gccgcgcagcg taagcggtta ggctggaaag cgaaagcatt aagtggctcg ctccctgttag 7560
 cccggagggtt attttccaag gttgagtcg cgggacccccc ggttcgagtc tcggaccggc 7620
 cggactgcgg cgaacggggg tttgcctccc cgtcatgcaa gaccccgctt gcaatttct 7680
 cccggaaacag ggacgagccc ctttttgc tttccagat gcatccggtg ctgcggcaga 7740
 tgccgcgcgc tccatcagcag cggcaagagc aagagcagcg gacagacatgc agggcaccc 7800
 cccctccctcc taccgcgtca ggagggcga catccgggt tgacgcggca gcagatggtg 7860
 attacgaacc cccgcggcgc cggggccggc actacctgga ctggaggag ggcgagggcc 7920
 tggcgccggct aggagcgccc tccatcgac ggtacccaag ggtgcagctg aagcgtgata 7980
 cgcgtgaggc gtacgtgcgg cggcagaacc tgtttcgcga cccgcgggaa gaggagcccg 8040
 aggagatgcg ggatcgaaag tccacgcag ggccgcagct gcccgcgtt ctgaatcgcc 8100
 agcggttgtc gcccgcaggag gactttgago ccgcacgcgcg aacccggatt agtcccgcgc 8160
 gcccacacgt ggccggccgc gacctggtaa ccgcatacga gcagacggtg aaccaggaga 8220
 ttaactttca aaaaagcttt aacaaccacg tgcgtacgt tgcgtgcgc gaggaggtgg 8280
 ctataggact gatgcacatcg tggactttg taagcgcgct ggagcaaaac ccaaatacgca 8340
 agccgcgtcat ggccgcagctg tcccttatacg tgcagcacag cagggacaac gaggcattca 8400
 gggatgcgtct gctaaacata gtagagcccg agggccgcgt gctgcgtcgat tggataaaca 8460
 tcctgcagag catagtggtg caggagcgc tgcgtgcgc gcttgagcc ggctgacaag gtggccgc 8520

tcaactattc catgcttagc ctggccaagt tttacgcccc caagatatac cataccccc 8580
acgttccat agacaaggag gtaaaatcg aggggttcta catgcgcac ggcgtgaagg 8640
tgcttacctt gagcgacgac ctggcggtt atcgcaacga gcgcacccac aaggccgtga 8700
gcgtgagccg gcggcgccgag ctcagcgacc gcgagctgat gcacagcctg caaaggccc 8760
tggctggcac gggcagcggc gatagagagg ccgagtccta ctttgcgcg ggacgtgacc 8820
tgcgctggc cccaaagccga cgcccccctgg aggcaagctgg ggccggacct gggctggcg 8880
tggcaccgcg cgcgcgtggc aacgtcgccg ggcgtggagga atatgacgag gacgatgagt 8940
acgagccaga ggacggcgag tactaagcgg tgatgttct gatcagatga tgcaagacgc 9000
aacggaccgcg gcggtgcggg cggcgctgca gagccagccg tccggcccta actccacgga 9060
cgactggcg caggcatgg accgcacatcat gtcgtgact gcgcgcatact ctgacgcgtt 9120
ccggcagcag cccgaggcca accggcttc cgcaattctg gaagcggtgg tccggcg 9180
cgcaaaccgc acgcacgaga aggtgctggc gatgtaaac gcgcgtggc aaaacaggc 9240
catccggccc gacgaggccc gcctggtcta cgacgcgttgc cttcagcgcg tggctcgta 9300
caacagcggc aacgtgcaga ccaacctggc ccggctggc ggggatgtgc gcgaggccgt 9360
ggcgcaagcgt gagcgccgcg acgcagcaggc caacctggc tccatggttg cactaaacgc 9420
cttcctgagt acacagcccg ccaacgtgcc gggggacag gaggactaca ccaactttgt 9480
gagcgcactg cggctaatgg tgactgagac accgcacatgg gaggtgtacc agtctggcc 9540
agactatgg ttccagacca gtagacaagg cctgcagacc gtaaacctga gccaggctt 9600
caaaaacttg cagggctgt ggggggtgcg ggctccaca ggcgaccgcg cgaccgtgtc 9660
tagcttgcgtg acgccccact cgccctgtt gtcgtgata atagcgccct tcacggacag 9720
tggcagcgtg tcccgccaca catacctagg tcacttgcgtg acactgtacc gcgaggccat 9780
aggtcaggcg catgtggacg agcataactt ccaggagatt acaagtgtca gcgcgcgcgt 9840
ggggcaggag gacacggca gcctggagcc aaccctaaac tacctgctga ccaaccggcg 9900
gcagaagatc ccctcggtgc acagttaaa cagcgaggag gagcgatcc tgcgtacgt 9960
gcagcagcgt gtgagcccta acctgtatgcg cgacgggttgc acgcacgcg tggcgctgg 10020
catgaccgcg cgcaacatgg aaccggccat gtatgcctca aaccggccgt ttagcaaccg 10080
ccataatggac tacttgcata gcgcggccgc cgtgaacccc gagtatttca ccaatgcct 10140
cttgaaccccg cactggctac cgcccccgttgg tttctacacc gggggatccg aggtgcgcgt 10200
ggtaacgtt ggattccat gggacgacat agacgacagc gtgtttcccg cgcaaccgc 10260
gaccctgctt gatgtcaac agcgccgac ggcagaggcg gcgcgtgcgaa agggaaagctt 10320
ccgcaggcca agcagctgtt cgcgttgcggcc ccgcgggtcg atgttagtag 10380
ccatattcca agcttgatag ggtctttac cagcactgc accacccgcg cgcgcgtgt 10440
gggcgaggag gatgtaccaa acaactcgct gtcgcaggc cagcgccgaaa aaaaactgcc 10500

tccggcattt cccaacaacg ggatagagag cctagtggac aagatgagta gatggaagac 10560
gtacgcgcag gaggcacaggg acgtgccagg cccgcgcgg cccacccgtc gtcaaaggca 10620
cgaccgtcag cggggctctgg tgtgggagga cgatgactcg gcagacgaca gcagcgtcct 10680
ggatttggga gggagtgccaa acccggttgc gcacccctgc cccaggctgg ggagaatgtt 10740
ttaaaaaaaaaaaa aaaagcatga tgcaaaataa aaaactcacc aaggccatgg caccgagcgt 10800
tgttttctt gtattcccct tagtatgcgg cgccgcggcga tgtatgagga aggtccctcct 10860
ccctccatcg agagtgtggt gagcgcggcg ccagtggcgg cggcgctggg ttctcccttc 10920
gatgctcccc tggacccgccc gtttgcgttcccgatcc tgcgcctac cgggggggaga 10980
aacagcatcc gttactctga gttggcaccc ctattcgaca ccacccgtgt gtacctggtg 11040
gacaacaagt caacggatgt ggcattccctg aactaccaga acgaccacag caactttctg 11100
accacggtca ttcaaaacaa tgactacagc ccggggggagg caagcacaca gaccatcaat 11160
cttgcacgacc ggtcgactg gggcggcgac ctggaaaacca tcctgcatac caacatgcca 11220
aatgtgaacg agttcatgtt taccaataag tttaaggcgc gggtgatggt gtgcgccttg 11280
cctactaagg acaatcaggt ggagctgaaa tacgagtggg tggagttcac gtcgcacag 11340
ggcaactact ccgagaccat gaccatagac cttatgaaca acgcgcgttgc ggagcactac 11400
ttgaaagtgg gcagacagaa cgggggtctg gaaagcgcaca tcggggtaaa gtttgacacc 11460
cgcaacttca gactgggtt tgacccctgc actggctctg tcatgcctgg ggtatataca 11520
aacgaagcct tccatccaga catcattttg ctgccaggat gcggggtgga cttcacccac 11580
agccgcctga gcaacttgc gggcatccgc aagcggcaad cttccagga gggctttagg 11640
atcacctacg atgatctggaa gggtggttaac attcccgac tggatgttgc gtcgcctac 11700
caggcgcagct taaaagatga caccgaacag ggcgggggtg ggcgcaggcgg cagcaacagc 11760
agtggcagcg ggcggaaaga gaactccaaac gcggcagccg cggcaatgca gccggtgag 11820
gacatgaacg atcatgccat tcgcggcgac acctttgcca caccggctga ggagaagcgc 11880
gctgaggccg aagcagcggc cgaagctgcc gccccccgtcg cgcacccga ggtcgagaag 11940
ccteagaaga aaccgggtat caaaacctgc acagaggaca gcaagaaaacg cagttacaac 12000
ctaataagca atgacagcac cttcacccag taccgcagct ggtacccctgc atacaactac 12060
ggcgacccctc agacccggat ccgctcatgg accctgttt gcactccctga cgtaacccgtc 12120
ggctcgaggac aggtctactg gtcgttgcca gacatgatgc aagaccccgat gacccctgc 12180
tccacgcgcc agatcagcaa ctttcgggtg gtggggcccg agctgttgac cgtgcactcc 12240
aagagcttct acaacgacca ggcgcgttac tcccaactca tccgcaggat tacctctctg 12300
acccacgtgt tcaatcgctt tcccgagaac cagatggggcccg agccccccacc 12360
atcaccacccg tcagtaaaaa cgttcctgtt ctcacagatc acgggacgct accgatgcgc 12420
aacagcatcg gaggagtccaa ggcgcgttac ctttcgggtg gtggggcccg cccctgcggcc 12480

tacgtttaca aggccctggg catagtctcg ccgcgcgtcc tatcgagccg cacttttga 12540
 gcaaggcatgt ccatccttat atcgccccagc aataacacag gctggggct gegcttccca 12600
 agcaagatgt ttggcggggc caagaagcgc tccgaccaac acccagtgcg cgtgcgcggg 12660
 cactaccgcg cgccctgggg cgccgcacaaa cgccgcgcac ctgggcgcac caccgtcgat 12720
 gacgccatcg acgcgggtggt ggaggaggcg cgcaactaca cgcccacgcc gccaccagt 12780
 tccacagtgg acgcggccat tcagaccgtg gtgcgoggag cccggcgcta tgctaaaaatg 12840
 aagagacggc ggaggcgcgt agcacgtcg caccgcgcac gacccggcac tgccgcoccaa 12900
 cgccgcggcgg cgccctgtt taaccgcgcac cgtcgcaccc gccgacggc gcgcattgcgg 12960
 gccgctcgaa ggctggccgc gggtattgtc actgtgcggcc ccaagggtccag gcgcacgcgc 13020
 gccgcgcag cagccgcggc cattagtgtc atgactcagg gtcgcagggg caacgtgtat 13080
 tgggtgcgcg actcggttag cggccctgcgc gtgcgggtgc gcacccgcac cccgcgcac 13140
 tagattgcaa gaaaaaacta cttagactcg tactgttgta tgtatccagc ggccgcggcg 13200
 cgcaacgaag ctatgtccaa gcgcacaaatc aaagaagaga tgctccaggt catgcgcgg 13260
 gagatctatg gccccccgaa gaaggaagag caggattaca agccccgaaa gctaaagcgg 13320
 gtcaaaaaga aaaagaaaaga tgatgatgat gaacttgacg acgagggtgga actgctgcac 13380
 gctaccgcgc ccaggcgacg ggtacagtgg aaaggtegac gcgtaaaaacg tgggtgcga 13440
 cccggcacca ccgttagtctt taegccccgtt gagcgctccaa cccgcaccta caagcgcgtg 13500
 tatgatgagg tgtacggcga cgaggacctg cttgagcagg ccaacgagcg cctcggggag 13560
 ttgcctacg gaaagcggca taaggacatg ctggcggtgc cgctggacga gggcaaccca 13620
 acacccatgc taaagccccgtt aacactgcac caggtgcgtc cccgcgttgc accgtccgaa 13680
 gaaaagcgcg gcctaaagcg cgagtctgtt gacttggcac ccacccgtcgc gctgtggta 13740
 cccaaagegcc acgcactgga agatgtctt gaaaaaatga cccgtggaaacc tgggtggag 13800
 cccgagggtcc gcgtgcggcc aatcaagcag gtggcgccgg gactggcggt gcagaccgtg 13860
 gacgttcaga tacccactac cagtagcacc agtattgcca cccgcacaga gggcatggag 13920
 acacaaacgt ccccggttgc ctcagcggtg gcggatgcgc cggtgcggc ggtcgctgcg 13980
 gccgcgtccaa agacctctac ggaggtgcaaa acggacccgtt ggatgtttcg cgtttccgac 14040
 ccccgccgc cgcgcgggttc gaggaagtac ggcgcgcacca gccgcgttact gcccgaatat 14100
 gcccctacatc cttccattgc gcctacccca ggctatcggt gctacacacta cccgcacccaga 14160
 agacgagcaatc ctacccgacg ccgaaccacc actgaaaccc gccgcgcgcg tcggcggtgc 14220
 cagcccggtgc tggcccgat ttccgtgcgc agggtggctc gcgaaggaggc caggaccctg 14280
 gtgcgtccaa cagccgcgtt cccatccaggc atcggttaaa agccgggttt tggtttttttt 14340
 gcagatatgg cccteacctg cccgcgttgc ttcccggtgc cccgttccgg aggaagaatg 14400
 caccgttagga gggcatggc cggccacggc ctgacgggcg gcatgcgtcg tgccgcaccac 14460

cggcggcggc ggcgtcgca cggcgcatg cgccggta tctgccct cttattcca 14520
ctgatcgccg cggcgattgg cggcgatccc gaaattgcat ccgtggcctt gcaggcgag 14580
agacactgat taaaaacaag ttgcgttgg aaaaatcaa ataaaaagtc tggactctca 14640
cgctcgcttg gtccgttaac tatttttag aatggaagac atcaacttg cgtctctggc 14700
cccgacac ggctcgcccg cttcatggg aaactggca gatatcgca ccagcaatat 14760
gagcggtggc gccttcagct ggggctcggt gtggagcggc attaaaaatt tcggttccac 14820
cgtaagaac tatggcagca aggctggaa cagcagcaca ggccagatgc tgagggataa 14880
gttgaagag caaaattcc aacaaaagggt ggtagatggc ctggcctctg gcattagcgg 14940
ggtgtggac ctggccaacc aggcagtgc aataagatt aacagtaagc ttgatccccg 15000
ccctcccgta gaggagccctc caccggccgt ggagacagtg totccagagg ggctggcga 15060
aaagcgtccg cgccccgaca gggaaagaaac tctggtgacg caaatagacg agcctccctc 15120
gtacgaggag gcactaaagc aaggcctgcc caccacccgt cccatcgccg ccatggctac 15180
cgagatgctg ggccagcaca caccgtAAC gctggacctg cttccccccg ccgacaccca 15240
gcagaaacct gtgctgccag gcccggccgc cttttgtta acccgcccta gcccggcgtc 15300
cctggccgc gccggcagcg gtccggatc gttggggcc gtagccagtg gcaactggca 15360
aacacactg aacagcatcg tgggtctggg ggtgcaatcc ctgaagcgcc gacgatgctt 15420
ctgaatagct aacgtgtcgat atgtgtgtca tgtatcgctc catgtcgccg ccagaggago 15480
tgctgagccg cccggccccc gctttccaag atggctaccc cttcgatgat gcccggatgg 15540
tcttacatgc acatctcggg ccaggacgc tggaggtacc tgagccccgg gctggtgca 15600
tttggccgcg ccaccggagac gtacttcagc ctgaataaca agtttagaaa ccccacggtg 15660
gcccctacgc acgacgtgac cacagacccg tcccaacgtt tgacgctgcg gttcatccct 15720
gtggaccgtg aggataactgc gtactcgatc aaggcgccgt tcaacccatgc tgggggtgat 15780
aaccgtgtgc tggacatggc ttccacgtac tttgacatec ggggggtgat ggacaggggc 15840
cctacttttta agccctactc tggcaactgcc tacaacgccc tggctccaa gggtgcccc 15900
aatccttgccg aatggatga agctgtact gctttgaaa taaacccaga agaagaggac 15960
gatgacaacg aagacgaagt agacggacaa gctgagcgc aaaaaactca cgtatTTGGG 16020
caggcgccctt attctggtat aaatattaca aaggagggtt ttcaaatagg tggatggat 16080
caaacaccta aatatgccga taaaacattt caacctgaac ctcaaatagg agaatctcag 16140
tggtacgaaa ctgaaattaa tcatgcagct gggagagtcc taaaaagac taccggat 16200
aaaccatgtt acgggtcata tgcaaaaccc acaaattgaaa atggaggggca aggcatttt 16260
gtaaagcaac aaaatggaaa gctagaaagt caagtggaaa tgcaattttt cttcaactact 16320
gaggcgaccg caggcaatgg tgataacttg actcctaaag tggattgtt cagtgaagat 16380
gtagatatacg aaaccccaga cactcatatt tcttacatgc ccactattaa ggaaggtaac 16440

tcacgagaac taatggcca acaatctatg cccaacaggc ctaattacat tgcttttagg 16500
gacaatttta ttggctaat gtattacaac agcacggta atatgggtgt tctggcgccc 16560
caagcatcgc agttgaatgc tgttgttagat ttgcaagaca gaaacacaga gcttcatac 16620
cagctttgc ttgattccat tggtgataga accaggtact tttctatgtg gaatcaggct 16680
gttgacagct atgatccaga tgttagaatt attgaaaatc atggaactga agatgaactt 16740
ccaaattact gctttccact gggaggtgtg attaatacag agactcttac caaggtaaaa 16800
cctaaaaacag gtcaggaaaa tggatggaa aaagatgcta cagaatttc agataaaaat 16860
gaaataagag ttggaaataa ttttgcctatg gaaatcaatc taaatgccaa cctgtggaga 16920
aatttcctgt actccaacat agcgctgtat ttgcccaca agctaaagta cagtccttcc 16980
aacgtaaaaa tttctgataa cccaaacacc tacgactaca tgaacaagcg agtggtgct 17040
cccggttag tggactgcta catthaacctt ggagcacgct ggtcccttga ctatatggac 17100
aacgtcaacc catthaacca ccaccgcaat gctggcctgc gctaccgctc aatgttgctg 17160
ggcaatggtc gctatgtgcc cttccacatc caggtgcctc agaagtttt tgccattaaa 17220
aacetccttc tcctgcggg ctcatacacc tacgacttggaa acttcaggaa ggatgttaac 17280
atggttctgc agagctccct aggaaatgac ctaagggttg acggagccag cattaagttt 17340
gatagcatt gccttacgc caccttcttc cccatggccc acaacaccgc ctccacgctt 17400
gaggccatgc ttagaaacga caccaacgac cagtccttta acgactatct ctccggcc 17460
aacatgctct accctataacc cgccaaacgct accaacgtgc cdatatccat cccctcccc 17520
aactggcggg cttcccgccg ctgggccttc acgogcctta agactaagga aaccccatca 17580
ctgggctcgg gctacgaccc ttattacacc tactctggct ctatacccta cctagatgga 17640
acottttacc tcaaccacac ctttaagaag gtggccatta cttttgactc ttctgtcago 17700
tggcctggea atgaccgcct gcttacccccc aacgagttt aaattaagcg ctcagttgac 17760
ggggagggtt acaacgtgc cagtgtaac atgaccaaag actggttctt ggtacaaatg 17820
ctagctaact acaacattgg ctaccaggc ttcttatatcc cagagagct aaggaccgc 17880
atgtactcct tcttagaaa cttccagccc atgagccgtc aggtggtgaa tgatactaaa 17940
tacaaggact accaacaggc gggcatccata caccaacaca acaactctgg atttgttggc 18000
tacottgccc ccaccatgcg ogaaggacag gcctaccctg ctaacttccc ctatccgctt 18060
ataggcaaga cccgagttga cagcattacc cagaaaaagt ttctttgcga tcgcaccctt 18120
tggcgcattcc cattctccag taactttatg tccatggcg cactcacaga cctgggccaa 18180
aaccttctct acgccaactc cggccacgcg ctagacatga cttttgaggt ggatccatg 18240
gacgagccca cccttcttta tgggggtttt gaagtcttgc acgtggccg tggcaccgg 18300
ccgcaccgcg gcgtcatcga aaccgtgtac ctgcgcacgc ctttcgcgc cggcaacgcc 18360
acaacataaa gaagcaagca acatcaacaa cagtcgcgc catgggcctcc agtgagcagg 18420

aactgaaagc cattgtcaaa gatcttggtt gtgggccata ttttttgggc acctatgaca 18480
agcgcttcc aggcttggtt tctccacaca agctcgctg cgccatagtc aatacggccg 18540
gtcgcgagac tgggggcgta cactggatgg ccttgccctg gaacccgcac tcaaaaacat 18600
gctacctctt tgagcccttt ggctttctg accagcgact caagcagggtt taccagttt 18660
agtacgagtc actcctgcgc cgtagccca ttgcttctt ccccgaccgc tgtataacgc 18720
tggaaaagtc cacccaaagc gtacaggggc ccaacteggc cgcctgtgga ctattctgct 18780
gcatgtttct ccacgccttt gccaactggc cccaaactcc catggatcac aacccacca 18840
tgaaccttat taccgggta cccaaactcca tgctcaacag tccccaggta cagcccaccc 18900
tgctcgcaa ccaggaacag ctctacagct tctggagcg ccactcgccc tacttccgca 18960
gccacagtgc gcagattagg agcgccactt cttttgtca cttgaaaaac atgtaaaaat 19020
aatgtactag agacactttc aataaaggca aatgtttta tttgtacact ctgggtgat 19080
tatttacccc cacccttgcc gtctgcgcgg tttaaaaatc aaagggttc tgccgcgcatt 19140
cgctatgcgc cactggcagg gacacgttgc gatactggtg ttttagtgctc cacttaaact 19200
caggcacaac catccgcggc agctcggtga agtttcaact ccacaggctg cgcaccatca 19260
ccaaacgcgtt tagcaggtcg ggcgcgcata tcttgaagtc gcagttgggg cctccgcct 19320
gccccgcgca gttgcgatac acagggttgc agcactggaa cactatcagc gcccgggttgt 19380
gcacgctggc cagcaagctc ttgtcgagata tcagatccgc gtccagggtcc tccgcgttgc 19440
tcagggcgaa cggagtcaac tttggtagct gccttccaa aaaggcgccg tgcccaggct 19500
ttgagttgca ctgcacccgt agtggcatca aaaggtgacc gtgcgggtc tggcggttag 19560
gatacagcgc ctgcataaaa gcottgatct gctaaaagc cacctgagcc tttgcgcctt 19620
cagagaagaa catgccgcaa gacttgcggg aaaactgatt ggccggacag gcccgtcg 19680
gcacgcagca ccttgcgtcg gtgtggaga tctgcaccac atttcggccc caccgggtct 19740
tcacgatctt ggccttgcta gactgctct tcagcgccgc ctgcgggttt tcgctcgat 19800
catccatttc aatcacgtgc tccttattta tcataatgct tccgtgtaga cacttaagct 19860
cccttcgat ctcagcgca ggggcggcc acaacgcgcgca gccccgtggc tcgtgtatgt 19920
tgttaggtcac ctctgoaaac gactgcaggat acgcctgcag gaatcgcccc atcatcgta 19980
caaagggtctt gttgcgttg aaggtcagct gcaacccgcg gtgcctctg ttcaagccagg 20040
tcttgcatac ggcgcgcaga gcttccactt ggtcaggcag tagtttgaag ttgccttta 20100
gatcggttac cacgtggtaac ttgtccatca ggcgcgcgcg acgcctccatg cccttgcgc 20160
acgcagacac gatcgccaca ctcagcggtt tcataccgt aatttcactt tccgcgttgc 20220
tgggcgttcc ctcttcctct tgcgtccgca taccacgcgc cactgggtcg tcttcattca 20280
gccgcgcac tgtgcgttta ctcccttgc catgcttgcat tagdaccgtt gggttgctga 20340
aacccaccat ttgtagcgcc acatcttctc tttcttcctc gctgtccacg attacctctg 20400

gtgatggcgg gcgctgggc ttgggagaag ggcgcttctt tttttcttg ggcgcataatgg 20460
ccaaatccgc cgccgaggtc gatggccgcg ggctgggtgt gcgcggcacc agcgcgtctt 20520
gtgatgagtc ttccctcgta tcggactcga tacgccgcct catccgcctt tttggggcgc 20580
cccggggagg cggcggcgcac ggggacgggg acgacacgac ctccatggtt gggggacgac 20640
gcgcgcacc gcgccgcgc tcgggggtgg tttcgctg ctcccttcc cgactggcca 20700
tttccctctc ctataggcag aaaaagatca tggagtcagt cgagaagaag gacagcctaa 20760
ccgcggccctc tgagttcgcc accaccgcct ccaccgatgc cgccaaacgcg cctaccaccc 20820
tccccgtcga ggcacccccc cttgaggagg aggaagtgtat tatcgagcag gaccagggtt 20880
ttgttaagcga agacgacgag gaccgctca g taccacacaga ggataaaaaag caagaccagg 20940
acaacgcaga ggcaaacgag gaacaagtcg ggcggggggga cgaaaggcat ggcgactacc 21000
tagatgtggg agacgacgtg ctgttgaagc atctgcagcg ccagtgcgcc attatctgcg 21060
acgcgttgca agagcgcagc gatgtgcacc tcgcatacgc ggatgtcagc cttgcctacg 21120
aacgcacccattcattctcaccgcg cggatcccgccaaacgcgca agaaaacggc acatgcgagc 21180
ccaaacccgcg cctcaacttc taccgggtat ttgcgtgcc agaggtgttt gccacccatc 21240
acatcttttt ccaaactgc aagataccccc tatctgcgg tgccaaaccgc agccgagcgg 21300
acaaggcagct ggccttgccg cagggcgctg tcataacctga tatgcctcgc ctcaacgaag 21360
tgccaaaaat ctttgggggt cttggacgcg acgagaagcg cgccggcaaac gctctgcac 21420
agaaaaacag cgaaaatgaa agtcaactctg gagttttgggt ggaactcgag ggtgacaacg 21480
cgcccttagc cgtactaaaa cgcagcatcg aggtcacccca cttgcctac ccggcactta 21540
acctaaccctt caagggtcatg agcacagtcg tgagttagt gatcgtgcgc cgtgcgcagc 21600
ccctggagag ggatgcaaat ttgcaagaac aaacagagga gggcctaccc gcagttggcg 21660
acgagcagct agcgcgttgg cttcaaacgc gcgagccgtc cgacttggag gagcgacgc 21720
aactaatgt ggccgcagtg ctgcgttaccg tggagcttga gtgcgtgcag cggttctttg 21780
ctgacccggaa gatgcagcgc aagctagagg aaacatttgc ctacaccctt cgacagggtt 21840
acgtacgcac ggcctgcaag atctccaaacg tggagctcg caacctggc tcctacccct 21900
gaattttgca cgaaaacccgc cttggggcaaa acgtgttca ttccacgcgc aaggggcgagg 21960
cgccggccgcgca ctacgtccgc gactgcgtt acttatttct atgctacacc tggcagacgg 22020
ccatggggcgt ttggcagcag tgcttggagg agtgcacccct caaggagctg cagaaactgc 22080
taaaggcaaaa cttgaaggac ctatggacgg cttcaacgc gcgctcggtg gccgcgcacc 22140
tggcggacat cattttcccc gaacgcctgc ttaaaaaccct gcaacagggt ctgccagact 22200
tcaccaggta aagcatgtt gagaacttta ggaactttat cctagagcgc tcaggaatct 22260
tgcccgccac ctgctgtgca ctcccttagcg actttgtgcc cattaagtac cgcgaaatgcc 22320
ctccggcgat ttggggccac tgcttacccctc tgcaagctgc caactaccctt gcctaccact 22380

ctgacataat ggaagacgtg agcggtgacg gtctactgga gtgtcaactgt cgctgcaacc 22440
tatgcacccgc gcacccgctcc ctggtttgca attcgcagct gcttaacgaa agtcaaatta 22500
tcggtacctt tgagctgcag ggtccctcgctg acgtcgaaa gtcggcggttgc ccgggggttga 22560
aactcaactcc ggggctgtgg acgtcggctt accttcgcaa atttgtacct gaggactacc 22620
acgccccacga gattaggttc tacgaagacc aatcccggcc gccaaatgcg gagettaccg 22680
cctgcgtcat tacccagggc cacattcttg gccaattgca agccatcaac aaagcccgcc 22740
aagagtttct gctacgaaag ggacgggggg tttacttgga ccccccagtcc ggcgaggagc 22800
tcaacccaat ccccccggccg cccggccct atcagcagca gccgcgggcc ctgttcc 22860
aggatggcac ccaaaaagaa gctgcagctg ccgcggccac ccacggacga ggaggaatac 22920
tgggacagtc aggcaagagga gttttggac gaggaggagg aggacatgtat ggaagactgg 22980
gagagcctag acgaggaagc ttccgaggc gaagaggtgt cagacgaaac accgtcacc 23040
tcggtcgtcat tcccctcgcc ggccggccctt aaatcgccaa ccgggttccag catggctaca 23100
acctccgctc ctcaggccgc gcccggactg cccgttccgc gacccaaaccg tagatggac 23160
accactggaa ccagggccgg taagtccaaag cagccggccgc cgtagccaa agagcaacaa 23220
cagcgccaaag gctaccgcgc atggcgccgg cacaagaacg ccatagttgc ttgttgc 23280
gactgtgggg gcaacatctc ttccggccgc cgattttttc totaccatca cggcggtggcc 23340
ttcccccgta acatcctgca ttactaccgt catctctaca gcccatactg caccggccggc 23400
agcggcagcg gcagcaacag cagcgccac acagaagcaa aggcgaccgg atagcaagac 23460
tctgacaaag cccaaagaaat ccacagcgcc ggcaggcagca ggaggaggag cgctgcgtct 23520
ggcgccaaac gaaccctgtat cgccggccgaa gcttagaaac aggattttc ccactctgt 23580
tgctatatattt caacagagca ggggccaaga acaagagctg aaaataaaaa acaggtctct 23640
gcgtccctc acccgccagct gctgtatca caaaagcgaa gatcagcttc ggccacgc 23700
ggaagacgcg gaggctctct tcagtaataa ctgcggctg actttaagg actagttcg 23760
ccccccttctt caaatttaaag cgcggccac acccgccgc 23820
agcacctgtc gtcagcgcca ttatgagccaa gggaaattttcc acgtccatctc cggccctaca tgtggatgtt 23880
ccagccacaa atgggacttg cggctggagc tgcccaagac tactcaaccc gaataaaacta 23940
catgagcgcg ggacccacata tgatatcccg ggtcaacggaa atccggccac accgaaaccg 24000
aattcttttg gaacaggccgg ctattaccac cacacccgtt aataaacctta atccccgtat 24060
ttggcccgctt gcccgggtt accagggaaag tcccgtcc accactgtgg tacttcccg 24120
agacgcccac gccgaagttc agatgactaa ctcaggccgg cagttgcgg gggctttcg 24180
tcacagggtg cggtcggcccg ggcagggtat aactccatctg acaatcagag ggcgaggat 24240
tcagctcaac gacgagtcgg tgagctcoto gcttgggtctc cgtccggacg ggacatttca 24300
gatcggccgc gccggccgtc ttccattcac gcctcgtag gcaatccaa ctctgcagac 24360

ccacccatct atagtcggcat catttggtcta cacccaaaca atgatggaaat ccatacgattg 26400
gacggactga aacacatgtt cttttcttgc acagtatgtat taaatgagac atgattcctc 26460
gagtttttat attactgacc ctttgtgcgc ttttttgtgc gtgctccaca ttggctgcgg 26520
tttctcacat cgaagtagac tgcatccag cttcacagt ctatggctt tacggatgg 26580
tcaccctcac gctcatctgc agcctcatca ctgtggtcat cgcccttatac cagtgcatgg 26640
actgggtctg tttgtgcgtt gcatactca gacaccatcc ccagttacagg gacaggacta 26700
tagctgagct tcttagaaat ggacggaatt attacagagc agcgcctgtt agaaagacgc 26760
agggcagcgg ccgagcaaca ggcgtatgaat caagagctcc aagacatggta taacttgac 26820
cagtgcaaaa ggggtatctt ttgtctggta aagcaggcca aagtccaccta cgacagtaat 26880
accacccggac accgccttag ctacaagttt ccaaccaagc gtcagaaatt ggtggtcatg 26940
gtgggagaaaa agcccattac cataacttag cactcggttag aaaccgaagg ctgcattcac 27000
tcaccttgta aaggacctga ggatctctgc acccttattta agacccctgtt cggtatcaaa 27060
gatcttattt ccttaacta ataaaaaaaaa ataaaaaaatc atcacttaat taaaatcagt 27120
tagcaaattt ctgtccagtt tattcagcag cacttccttg ccctccccc agctctggta 27180
ttgcagcttc ctccctggctg caaactttctt ccacaatcta aatggaatgt cagtttcctc 27240
ctgttcctgt ccacccgcac ccactatctt catgttggta cagatgaagc ggcgaagacc 27300
gtctgaagat accttcaacc ccgtgtatcc atatgacacg gaaaccggtc ctccaaactgt 27360
gcctttctt actccccc ttgtatcccc caatgggtt caagagagtc cccctggggt 27420
actctcttttgc cgcctatccg aacctcttagt tacotccat ggcgtatgtt cgctcaaaaat 27480
ggcaacggc ctctctctgg acgaggccgg caacccatcc tccccaaatg taaccactgt 27540
gagccccaccc ctcaaaaaaaaaa ccaagtcaaa cataaaacccg gaaatatctg caccctcac 27600
agttacccatca gaagccctaa ctgtggctgc cggccgcaccc ctaatggctg cggcaacac 27660
actcaccatg caatcacagg ccccgctaac cgtgcacccgat tccaaactta gcattgcccac 27720
ccaaaggaccc ctcacagtgt cagaaggaaa gctagccctg caaacatccg gccccctcac 27780
caccacccat agcagtaccc ttactatcac tgcctcaccc cctcttaacta ctgccactgg 27840
tagcttgggc attgacttga aagagcccat ttatacacaat aatggaaaac taggactaaa 27900
gtacggggct cctttgcattt taacagacga cctaaacact ttgaccgttag caactggtec 27960
agggtgtact attaataata cttcccttgc aactaaaggactt actggggccct tgggttttga 28020
ttcacaaggc aatatgcaac ttaatgttagc aggaggacta aggattgatt ctccaaacag 28080
acgccttata cttgtatgtta gttatccgtt tggatgtccaa aaccaactaa atctaaagact 28140
aggacaggggc cctcttttta taaaactcagc ccacaacttg gatatttaact acaacaaagg 28200
cctttacttg tttacagctt caaacaattt caaaaagctt gaggttaacc taagcactgc 28260
caagggggttgc atgtttgcacg ctacagccat agccattaaat gcaggagatg ggcttgcatt 28320

tggttacacct aatgcaccaa acacaaatcc cctcaaaaaca aaaattggcc atggcctaga 28380
atttgattca aacaaggcta tggttcttaa actaggaact ggccttagtt ttgacagcac 28440
aggtgccatt acagtaggaa acaaaaataa tgataagcta actttgtgga ccacaccagc 28500
tccatctcct aactgttagac taaatgdaga gaaagatgct aaactcactt tggtcttaac 28560
aaaatgtggc agtcaaatac ttgctacagt ttcaagtttg gctgttaaag gcagtttggc 28620
tccaatatct ggaacagttc aaagtgctca tcttattata agatttgacg aaaatggagt 28680
gtcaactaaac aattccttcc tggaccaga atattggaac tttagaaatg gagatcttac 28740
tgaaggcaca gcctatacaa acgctgttgg atttatgcct aacctatcag cttatccaaa 28800
atctcacggt aaaactgcca aaagtaacat tgtcagtcaa gttaacttaa acggagacaa 28860
aactaaacct gtaacactaa coattacact aaacggtaca caggaaacag gagacacaac 28920
tccaagtgca tactctatgt cattttcatg ggactggtct ggccacaact acattaatga 28980
aatatttgcc acatccttcc acacttttc atacattgccc caagaataaa gaatgtttg 29040
tgttatgttt caacgtgtt attttcaat tgoagaaat ttcaagtcattttcattca 29100
gtagtatagc cccaccacca catagcttat acagatcaac gtaccttaat caaactcaca 29160
gaaccctagt attcaacctg ccacccctt cccaaacacac agagtagacaa gtcctttctc 29220
cccggtggc cttaaaaagc atcatatcat gggtaacaga catattctta ggtgttatat 29280
tccacacggt ttctgtcga gccaaacgtt catcagtgtat attaataaac tccccggca 29340
gtcacttaa gttcatgtcg ctgtccagct gctgagccac aggctgctgt ccaacttgcg 29400
gttgcttaac gggcggcgaa ggagaagtcc acgactacat gggggtagag tcataatcgt 29460
gcattcaggat agggcggtgg tgctgcagca ggcgcgcaat aaactgctgc cgccgcgcgt 29520
ccgtcctgca ggaataacaac atggcagtgg ttccttcagc gatgattcgc accgcggcga 29580
gcataaggcg ctttgcctc cgggcacagc agcgcaccct gatctcactt aaatcagcac 29640
agtaactgca gcacagcacc acaatattgt tcaaaatccc acagtgcacag ggcgtgtatc 29700
caaagctcat ggccccggacc acagaaccca cgtggccatc ataccacaag cgcaggtaga 29760
ttaagtggcg acccctcata aacacgctgg acataaacat tacctttttt ggcattgttgt 29820
aattcaccac ctcccggtac catataaacc tctgattaa catggcgcca tccaccacca 29880
tcctaaacca gctggccaaa acctgccccgc cggctataca ctgcaggaa ccgggactgg 29940
aacaatgaca gtggagagcc caggactcgt aaccatggat catcatgttc gtcattgtat 30000
caatgttggc acaacacagg cacacgtgc tacacttccct caggattaca agcttccccc 30060
gcgttagaac catatcccag ggaacaaccc attcctgaat cagcgttaat cccacactgc 30120
aggaaagacc tcgcacgtaa ctacgttgt gcatgtcaa agtgttacat tcgggcagca 30180
gcggatgatc ctccagttatg gtagcgcggg tttctgtctc aaaaggaggt agacgatccc 30240
tactgtacgg agtgcgcgca gacaaccgag atcgtgttgg tctgtatgtc atgccaatg 30300

gaacgcccga cgtagtcata tttcctgaag caaaaccagg tgccggcggt acaaacagat 30360
ctgcgtctcc ggtctcgccg cttagatcgc tctgtgtagt agttgttagta tatccactct 30420
ctcaaagcat ccaggcgccc cctggcttcg gtttctatgt aaactoctic atgcgcggct 30480
gccctgataa catccaccac cgcaaaaaaa gccacaccca gccaacctac acattcgttc 30540
tgcgagtcac acacgggagg agcgggaaga gctggaagaa ccatgttttt ttttttatcc 30600
caaaagatta tccaaaacct caaaatgaag atctattaag tgaacgcgct cccctccgg 30660
ggcgtggtca aactctacag ccaaagaaca gataatggca tttgtaagat gttgcacaat 30720
ggcttccaaa aggcaaacgg ccctcacgct caagtggacg taaaggctaa acccttcagg 30780
gtgaatctcc tctataaaca ttccagcacc ttcacccatg cccaaataat tctcatctcg 30840
ccaccttctc aatatatctc taagcaaatac cccaaatatta agtccggcca ttgtaaaaat 30900
ctgctccaga gogccctcca ctttcagcct caagcagcga atcatgattt caaaaattca 30960
ggttcctcac agacctgtat aagattcaaa agctgaaat taacaaaaat accgcgatcc 31020
cgtaggtccc ttccggggc cagctgaaca taatcggtca ggtctgcacg gaccagcg 31080
gccacttccc cgccaggaac cttgacaaaa gaacccacac tgattatgac acgcataactc 31140
ggagctatgc taaccagcgt agccccgatg taagctttgt tgcattggcg gcgatataaa 31200
atgcaagggtg ctgctaaaaa aatcaggcaa agcctcgcc aaaaaagaaa gcacatcgta 31260
gtcatgctca tgcagataaa ggcaggtaag ctccggaaacc accacagaaa aagacaccat 31320
ttttctctca aacatgtctg cgggtttctg cataaacaca aaataaaaata aaaaaaaaaac 31380
atttaaacat tagaaggctg tcttacaaca ggaaaaacaa ccottataag cataagacgg 31440
actacggcca tgcggcggtg acogtaaaaaa aactggtcac cgtgataaaa aagcaccacc 31500
gacagctct cggtcatgtc cggaggcata atgtaaact cgtaaacac atcagggttg 31560
ttcateggtc agtgcataaa agcgacogaa atagccccgg ggaatacata cccgcaggcg 31620
tagagacaac attacagccc ccataggagg tataacaaaa ttaataggag agaaaaacac 31680
ataaacacccct cctgcctagg caaaatagca ccctcccgct ccagaacaac 31740
atacagcgct tcacagcgcc agcctaacag tcagcctac cagtaaaaaa gaaaacctat 31800
taaaaaaaaca ccactcgaca cggcaccagc tcaatcgac acagtgtaaa aaaggggccaa 31860
gtgcagagcg agtataatata ggactaaaaa atgacgtaac ggttaagtc cacaaaaaac 31920
acccagaaaa ccgcacgcga acctacgccc agaaacgaaa gccaaaaaac ccacaacttc 31980
ctcaaatcgat cacttcgtt ttcccacgtt acgttaacttc ccatttaag aaaactacaa 32040
ttcccaacac atacaagtta ctccgccta aaacctacgt caccggcccc gttccacgc 32100
cccgccac gtcacaaact ccacccctc attatcatat tggcttcaat ccaaataag 32160
gtatat 32166